Sixth Grade Life Science
Grade Standards, Supporting Skills, and Examples

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Comprehension)	**6.L.1.1. Students are able to illustrate the difference between plant and animal cells.** • Plant cells have chloroplasts and cell walls. ✓ Identify basic cell organelles and their functions. ✓ Recognize cells as the building blocks of living things. • Observe cells with a compound microscope.
(Comprehension)	**6.L.1.2. Students are able to explain the importance and scientific use of a classification system.** • Management of diversity for organization and categorization • Uniform scientific communication Example: identification and classification of newly-discovered organisms ✓ Kingdom, phylum, class, order, family, genus, species ✓ Kingdom classification system (monera, protista, plantae, fungi, animalia)

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
	✓ Investigate the lineage of organisms to predict traits and features. Examples: family genealogy, Mendel's pea plants, Punnett Squares ✓ Describe the difference between a hybrid and a purebred trait.

Indicator 3: Analyze how organisms are linked to one another and the environment.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
	✓ Model cycles in ecosystems. Examples: water, carbon dioxide/oxygen ✓ Describe the relationship between characteristics of biomes and the organisms that live there. ✓ Describe how organisms adapt to biotic and abiotic factors in a biome.

Sixth Grade Life Science
Performance Descriptors

Advanced	**Sixth grade students performing at the advanced level:** • explain the reasons for the differences between plant and animal cells; • design a classification system.
Proficient	**Sixth grade students performing at the proficient level:** • illustrate the difference between plant and animal cells; • explain the importance and scientific use of a classification system.
Basic	**Sixth grade students performing at the basic level:** • name two similarities and differences between plant and animal cells; • list the five kingdoms.

Sixth Grade Life Science
ELL Performance Descriptors

Proficient	**Sixth grade ELL students performing at the proficient level:** • name two similarities and differences between plant and animal cells; • list the five kingdoms; • ask questions related to science topics.
Intermediate	**Sixth grade ELL students performing at the intermediate level:** • name a similarity and difference between a plant and an animal cell; • list three of the five kingdoms; • give simple oral responses to questions on topics presented in class.

Basic	**Sixth grade ELL students performing at the basic level:** • recognize similarities and differences between plant and animal cells; • list two of the five kingdoms; • participate in science activities and experiments with other students; • use correct pronunciation of science words; • respond correctly to yes or no questions on topics presented in class.
Emergent	**Sixth grade ELL students performing at the emergent level:** • use correct pronunciation of science words; • use non-verbal communication to express scientific ideas.
Pre-emergent	**Sixth grade ELL students performing at the pre-emergent level**: • observe and model appropriate cultural and learning behaviors from peers and adults; • listen to and observe comprehensible instruction and communicate understanding non-verbally.

Seventh Grade Life Science
Grade Standards, Supporting Skills, and Examples

Indicator 1: Understand the fundamental structures, functions, classifications, and mechanisms found in living things.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Knowledge)	**7.L.1.1. Students are able to identify basic cell organelles and their functions.** • Observe cells with a compound microscope. Examples: cell membranes, cell wall, cytoplasm, vacuoles, nucleus • Describe the function of the cell membrane to include active transport and passive transport (diffusion, osmosis). • Describe cell walls as providing support and shape. • Describe cytoplasm. • Describe vacuoles. • Describe the function of the nucleus. ✓ DNA replication ✓ Protein synthesis (ribosomes) ✓ Transcription/translation ✓ Endoplasmic reticulum ✓ Lysosomes ✓ Chloroplasts role in photosynthesis ✓ Mitochondria role in respiration
(Comprehension)	**7.L.1.2. Students are able to identify and explain the function of the human systems and the organs within each system.** • Skeletal/support • Muscular • Digestive • Respiratory • Circulatory • Reproductive ✓ Endocrine

	✓ Immune ✓ Nervous ✓ Excretory ✓ Integumentary
(Application)	**7.L.1.3. Students are able to classify organisms by using the currently recognized kingdoms.** **Examples**: monera, protista, plantae, fungi, animalia ✓ Identify and compare the basic structure and function of major taxa. ✓ Describe the levels of organization within organisms. Example: cells to tissues to organs to systems to organisms
(Comprehension)	**7.L.1.4. Students are able to describe and identify the structure of vascular and non-vascular plants.** **Examples**: structures of root stems, leaves, and flowers

Indicator 2: Analyze various patterns and products of natural and induced biological change.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Comprehension)	**7.L.2.1. Students are able to distinguish between processes involved in sexual and asexual reproduction.** • Model the process of cell division. Examples: mitosis and meiosis ✓ Identify the role of genetics in the transmission of traits and characteristics in organisms. Examples: Punnett Square, selective breeding, adaptations, natural selection, multiple traits, pedigree

Indicator 3: Analyze how organisms are linked to one another and the environment.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Application)	**7.L.3.1. Students are able to predict the effects of biotic and abiotic factors on a species' survival.** **Examples**: adaptations, genetic defects, population disturbances, over-reproduction, animal behavior, flooding, global warming, oil spills, human activity ✓ Describe processes by which matter and energy flow through an ecosystem. Examples: photosynthesis, respiration, nitrogen cycle ✓ Use geospatial technologies to investigate natural phenomena. Examples: GPS, GIS, remote sensing

Seventh Grade Life Science
Performance Descriptors

Advanced	**Seventh grade students performing at the advanced level:** • compare and contrast hierarchical levels within the five kingdoms; • identify organism by taxonomic level using a dichotomous key; • given the characteristics of a plant, classify it as vascular or non-vascular; • compare and contrast sexual and asexual reproduction in plants and animals.
Proficient	**Seventh grade students performing at the proficient level:** • identify basic cell organelles and their functions; • identify and explain the function of the human systems and the organs within each system; • classify organisms by using the currently recognized kingdoms; • describe and identify the structure of vascular and non-vascular plants; • distinguish between processes involved in sexual and asexual reproduction; • predict the effects of biotic and abiotic factors on a species survival.
Basic	**Seventh grade students performing at the basic level:** • label the basic cell parts using a word bank; • using a list, order the organization of organisms; • give examples and characteristics of organisms from each kingdom;

	• using a word bank, label the parts of a flower; • define sexual and asexual reproduction.

Seventh Grade Life Science
ELL Performance Descriptors

Proficient	**Seventh grade ELL students performing at the proficient level:** • label the basic cell parts using a word bank; • using a list, order the organization of organisms (cell, tissue, organ, system); • give examples and characteristics of organisms from each kingdom; • using a word bank, label the parts of a flower; • define sexual and asexual reproduction; • ask questions related to science topics.
Intermediate	**Seventh grade ELL students performing at the intermediate level:** • recognize the basic cell parts; • recognize that organisms range from simple to complex; • give examples of organisms from each kingdom; • label two parts of a flower (leaf and stem); • define sexual or asexual reproduction; • give simple oral responses to questions on topics presented in class.
Basic	**Seventh grade ELL students performing at the basic level:** • recognize that cells have parts; • recognize that organisms have more than one part; • give examples of organisms; • recognize that a flower has parts; • define sexual reproduction; • participate in science activities and experiments with other students; • use correct pronunciation of science words; • respond correctly to yes or no questions on topics presented in class.
Emergent	**Seventh grade ELL students performing at the emergent level:** • use correct pronunciation of science words; • use non-verbal communication to express scientific ideas.
Pre-emergent	**Seventh grade ELL students performing at the pre-emergent level:** • observe and model appropriate cultural and learning behaviors from peers and adults; • listen to and observe comprehensible instruction and communicate understanding non-verbally.

Eighth Grade Life Science
Grade Standards, Supporting Skills, and Examples

After careful consideration of current research and input from educators throughout the state, the Committee revised former standards to facilitate effective instruction and student mastery. Grade eight standards emphasize Earth/Space Science.